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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,774	02/06/2001	James E. DeGrange JR.	348	3148

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EXAMINER	
PAYNE, DAVID C	

ART UNIT	PAPER NUMBER
2633	4

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/777,774	DEGRANGE ET AL.	
	Examiner	Art Unit	
	David C. Payne	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 09/777,786. Although the conflicting claims are not identical, they are not patentably distinct from each other because

E.g., Claim 1 of '786 disclosed

An optical communications apparatus for power balancing a wavelength division multiplexed (WDM) signal output from an add module adding at least one channel to a signal input thereto, comprising: a gain element optically coupled to the add module and to an add channel port receiving at least channel to be added; said gain element imparting optical gain to the at least one channel received from the add channel port; a controller operatively coupled to said gain element, said controller receiving an

input power measurement of the signal input to the add module; said controller determining an add path amplification value based on the input power measurement, a through loss associated with a signal passing through the add module, and an add loss associated with a signal traveling an add path of the add module; and said controller controlling said gain element according to the add path amplification value.

Claim 1 of '786 does not claim an add/**drop** module and receiving a dropped channel power measurement or determining an add path amplification value base on the **dropped** channel power measurement.

However, Claims 13 and 23 of '786 claimed an add/drop module that does not drop any channels. Even though the '786 application does not claim to drop any channels and therefore conduct channel power measurement based of dropped channels it would have been obvious to one of ordinary skill in the art at the time of invention drop channels and conduct power measurement from an add/drop unit since by definition an add/drop device is capable of dropping channels and furthermore, power management remains a desirable capability as channels are added or dropped just as in the case of conducting power management when only adding channels to stabilize the entire composite WDM signal.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim(s) 1, 6-11, 13, 16, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Terahara US006535309B1 (Terahara).

Re claims 1, 7, 16

Terahara disclosed

An optical communications apparatus/method (Figure 1) for power balancing a wavelength division multiplexed (WDM) signal output from an add module (10) adding at least one channel to a signal input thereto, comprising: a gain element (26) optically coupled to the add module and to an add channel port receiving at least channel to be added; said gain element imparting optical gain to the at least one channel received from the add channel port; a controller (25) operatively coupled to said gain element, said controller receiving an added/dropped power measurement of the signal input/output to/from the add/drop module; said controller determining an add path amplification value based on the input power

measurement (e.g., col./line: 7/28-45), a through loss associated with a signal passing through the add module (Lt), and an add loss associated with a signal traveling an add path of the add module (Ld) (see, col./line: 8/35-47); and said controller controlling said gain element according to the add path amplification value.

Re claim 6,

Terahara disclosed an optical communications apparatus for power balancing a wavelength division multiplexed (WDM) signal further comprising: a coupler (21) optically coupled to a drop output of the add/drop module, an optical-to-electrical converter optically coupled to said coupler, said optical to-electrical (photoelectric conversion, see col./line: 7/30-35) coupler receiving a portion of light from the at least one dropped channel; said controller determining the dropped channel power measurement from an output of said optical-to-electrical converter.

Re claims 8, 21

said gain element having a gain profile substantially matching a gain profile of a signal input to the add module. (e.g., col./line: 8/60-65).

Re claims 9, 10, 11, 13, 22, 23

an input/drop amplifier optically coupled an input port of the add module and receiving a plurality of input channels (see Figure 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim(s) 2-4, 12, 14, 15, 17-19, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terahara US006535309B1 (Terahara).

Re claims 2, 3, 4, 17, 18 and 19

Terahara does not disclose determining the add path amplification value based on the number of channels to be added or dropped or both. However it would have been obvious to one of ordinary skill in the art at the time of invention that the amplification value would be based on the change in the number of channels since Terahara disclosed adding or dropping more than one channel and his invention is designed to regulate power (e.g., col./line: 7/25-40) therefore regulation would necessarily account for the entire number of added or dropped channels.

Re claims 12, 25

Terahara does not disclose output amplifier performing gain flattening

amplification for the signal output from the add module. However it would have been obvious to one of ordinary skill in the art at the time of invention that the regulation function of the controller disclosed in Terahara flattens the gain amplification of the added signal for the benefit of "regulating" or producing a composite signal at the output where the wavelengths have equivalent signal output that does not interfere with the other signal reception at the receiver.

Re claims 14, 15, 24

Terahara does not disclose wherein said gain element includes an add amplifier **and** a variable optical attenuator, said controller controlling said variable optical attenuator/amplifier according to the add path amplification value. However, Terahara does disclose either and amplifier or VOA as an embodiment of the power regulation element (26, see col./line: 7/30-40). It would have been obvious to one of ordinary skill in the art at the time of invention that both of these elements could be used at once in the Terahara invention for the benefit of amplifying or attenuating individual add signals as needed. Where some signals may require attenuation rather than amplifying all signals and possibly causing problems in downstream receivers.

7. Claim(s) 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terahara US006535309B1 (Terahara) in view of Xiao et al. US 20020101636A1 (Xiao).

Re claims 5 and 20

Terahara does not disclose controlling the amplification equation exactly as disclosed, namely

P.sub.addtotal=P.sub.in+(Add Loss-Through Loss)+10 Log N.sub.add where P.sub.addtotal=add path amplified power level in dBm, P.sub.in=per channel power level of signal input to the add module in dBm, Through Loss=loss associated with a signal passing through the add module in dBm, Add Loss=loss associated with a signal travelling an add path of the add module in dBm, and N.sub.add=number of added channels.

However, Xiao disclosed controlling a variable attenuation of add channels based on the following equations

$P_{add,out} = P_{add} - L = 10 \log (y\%) - L4$, where $P_{add,out}$ is the power of the added channel, L is the loss introduced the VOA and y is the power taken by the tap (eg. P.4, (eq. 3). Further equations in Xiao taken into account power loss of through signals expressed a $P_{express}$ (eq. 2, p.3). While Xiao does not use the same mathematical expression as the applicant it would have been obvious to one of ordinary skill in the art at the time to calculate amplification of power in the Terahara invention similar to the Xiao invention to completely account for losses in all elements of the add/drop element.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jones et al. US 6,208, 441 B1, Barnard et al. US 6,219,162 B1 and Fatehi US 6,122,096 all teach power control while adding and dropping signals to an add/drop unit.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp

JASON CHAN
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